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Letter to the Editor

A response to: Chlamydia trachomatis infection in children: Do not forget perinatal acquisition [17 (2010) 96–98]

Sir,

Bertille de Barbeyrac's article[1] entitled "*Chlamydia trachomatis* infection in children: Do not forget perinatal acquisition: A case report of a 7-year old girl, *C. trachomatis* infected, presumed sexually assaulted" in our opinion does not provide conclusive evidence of the source of this Chlamydia infection.

From several hypotheses the authors have concluded that the diagnosis of Chlamydia in this seven year girl was a result of Mother-to-child transmission during child birth.

This child had also Human Papilloma Virus infection but for the purposes of this correspondence, we have focused only on the relevance of the Chlamydial infection.

The diagnosis of Chlamydia in a seven year girl should always raise suspicions of possible child sexual abuse and cannot be ignored.[2,3] In any evaluation of potential child sexual abuse, the history from the child must be taken into consideration, together with any other information which might raise the suspicion of sexual abuse. No information was given about these factors in the article and conclusions were drawn from laboratory findings alone. Whilst it is important to always consider alternative methods of acquisition, it is impossible to categorically state that this child's Chlamydia infection has been present since birth.

The authors have based their argument on the following observations which we refute:

1. The child, at the age 2 months, had a history of conjunctivitis and respiratory distress which persisted for over one month. To say that the symptoms are characteristic of *C. trachomatis* infection is plausible but not proven as no diagnostic testing was done at the time. The authors have provided no information with regards to treatment of this infection.
2. Even if confirmatory testing for neonatal Chlamydia was done at the time, it does not necessarily follow that the current infection (7 years later) is the same one. Furthermore, it would be unusual that a child, seven years, has never had antibiotics in her life. Any antibiotic course used for common childhood ailments may also inadvertently treat sub-clinical Chlamydia.
3. The child, at the age of seven, is diagnosed with Chlamydia by polymerase chain reaction (PCR) swabs taken from three separate vulval/vaginal samples on three separate dates. Ideally, as reported by Black et al.,[4] contemporary best practice, is to perform a confirmatory test using another Nucleic Acid Amplification Test [NAAT].
4. The mother tested positive by PCR and culture on one occasion three months after the child's positive diagnosis. The mother and the child are therefore both diagnosed with Chlamydia and are reported to have an "identical 'genovar' E". The authors use this information to wrongly conclude that the infection in the mother and child is therefore 'linked'. Comparing 'genovars/serovars' of Chlamydia is complex and currently only used for epidemiological study. It cannot be used for contact tracing and interpretation of relevance requires knowledge of the local prevalence of these types.[5–7]
5. The father (who is the alleged suspect) was tested on three different occasions (at the time the child was diagnosed and again one month and two months later) and had negative PCR results for Chlamydia (site not specified). The negative PCR results in the father are of neutral significance. A reasonable medical professional versed in areas of Sexual Health and Forensic Medicine would be knowledgeable of the well recognised reasons for a Chlamydia screening test to be negative in a situation such as this. These reasons include:
   - A person may have naturally cleared infection at the time the test was done.
   - A person may have been treated with an antibiotic [specifically for Chlamydia or inadvertently for other infections] which has resulted in a negative test result.
   - The authors have provided no information with regards to sexual history and sexual partners. It is possible that the father and mother are not current or recent sexual partners.
   - The test result may be a false negative result (which is not likely in this case given that there were three negative tests). Chlamydia testing is done by DNA testing and errors can occur from issues with transport logistics or technical error with specimen collection and processing in the laboratory.
6. The child and the mother had a positive serology for Chlamydia. The authors' state that the positive (as well as 'high' levels) IgG is 'proof' the infection must be 'long standing'. The authors subsequently go on to state that the father had negative serology for Chlamydia which "excludes the possibility of the man being infected at the time of the occurrence". They then contradict themselves by saying "if the infection was superficial it would not generate antibodies". We wonder if some of the terminology used; e.g., the term 'superficial' has been 'lost in translation' of this paper. The use of Chlamydia serology in the mother, child and father in this case is completely unorthodox and not validated. Chlamydia antibody testing is seldom used for diagnosing uncomplicated genital *C. trachomatis* infections. Serology cannot be used to 'rule in' or

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'rule out' previous infection. The natural history of antibody development after Chlamydia infection is not well understood and has not been extensively studied; particularly in children (except for pneumonitis). It is not clear how much of an antibody response develops after infection, how long these antibodies remain detectable for and how treatment of infection may affect antibody response. Loss of antibodies is common in the years after initial diagnosis of infection. It is therefore not possible to claim that the mother and child have had 'long standing' infection or even that the father has ever or never been infected with Chlamydia.[8–10]

7. Lastly, the authors state an examination of the child did not find any 'hymenal defloration'. It is surprising to see an article on child sexual assault published in 2010 using the term 'hymenal defloration'. This shows the authors to be unfamiliar with current international literature and consensus on the anogenital findings of children who have been sexually abused.[11–13]

We are concerned about the publication of such a paper in this journal. This has far reaching implications by justifying the evidence in this way. The management of such cases should be performed by suitably trained experts who can interpret the results in the context of the clinical setting to provide a valid evidence base so that there is not misrepresentation of this material in court.

Conflict of interests

None.

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